

# STEM MATTERS

Mathematics and Science  
Education Center  
APPALACHIAN STATE UNIVERSITY



## NC SCIENCE FESTIVAL HAS A NEW LOOK FOR 2021

Once again the month of April brings the statewide NC Science Festival, produced by the Morehead Planetarium and Science Center. In thirty days, students, parents, teachers, and STEM fans of all ages can engage in a variety of online and face-to-face experiences ranging from robotics to bird counts.

The MSEC joins in on the NC Science Festival with a selection of events that include special STEM Seminars, prerecorded content, and interactive events. Although it is difficult to replace the vibrance of events like the STEAM Expo, which draws 2500 students to campus each year, the NC Science Festival will provide access to a variety of events and speakers from across the state.

Follow the MSEC on social media and check the MSEC website for information and registration for recommended, highlighted, and sponsored events.



Click here to read more about the [NC Science Festival](#). See page 6 for social media contacts for the MSEC.

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## FROM THE DIRECTOR

**TRACIE MCLEMORE SALINAS**

*The single biggest problem in communication is the illusion that it has taken place.*  
-- George Bernard Shaw

The past year has prompted us to rely on technology in new or expanded ways. While this has often meant increased access and interactivity, the increased use of technology has also sometimes brought with it the *illusion* of communication rather than meaningful discourse.

With that in mind, we have sought to find new ways to engage technology in fostering meaningful communication. For example, in the last year, the Mathematics and Science Education Center (MSEC) and partners have captured the power of technology for IDEA-CON, an online conference. We have expanded our Facebook presence and used Zoom to host a vibrant book club discussion of Francis Su's *Mathematics for Human Flourishing*. We are also growing our online science seminars and demonstrations to enable virtual activities for the NC Science Festival.

One area that has not yet benefitted from the expansion of technology applications is the MSEC newsletter. Although available in pdf form through email and the MSEC website, the newsletter has not yet reached its potential for interactivity. With this issue, we are taking our first steps in working towards that.

In this issue of the newsletter, we are incorporating some new uses of technology, including links to articles outside our publication to showcase our partners and activities. In some cases, we are also providing links to video clips, providing our stakeholders with more vivid stories from the world of STEM education.

Throughout this newsletter, if you see the following icons, click on them or the indicated link for more content. You'll find links such as:



*More written content online. Click this link to read more on this topic.*



*Video or audio available. Click this link to view or hear additional media.*



*Opportunity to connect. Click this link for opportunities to volunteer or sign up for events.*

As you explore these new functionalities, let us know how they impact your enjoyment of and usefulness of the newsletter. If you have ideas for future interactive content, feel free to share by emailing us.

## PUBLIC SCHOOL PARTNERSHIP NEWS & OPPORTUNITIES

The Public School Partnership shares a variety of news and accomplishments this spring as partners announce the winners

of the spring 2021 mini-grants, continue the Partnership Leaders Council leadership development programming, and announce that Appalachian is yet again #1 in the nation for National Board Certified Alumni. Opportunities for engaging with the Partnership and teacher education at Appalachian include professional development and volunteer slots for a Program Advisory Team.

**Public School Partnership**  
APPALACHIAN STATE UNIVERSITY



*[Click here](#) to view the most recent newsletter of the Public School Partnership, including a form to volunteer for the Program Advisory Team.*



# MSEC BOOK CLUB BEGINS PROJECT

## MATH FOR FLOURISHING INSPIRES RESOURCE DEVELOPMENT

The MSEC hosted its first book club in fall 2020. The participants read and reflected on the book *Mathematics for Human Flourishing* by Francis Su. Each of the weekly meetings involved stimulating and thought-provoking conversations in which the participants shared personal teaching experiences related to the themes and virtues that Su suggests are connected to human flourishing; participants enjoyed interacting with others who value doing and teaching mathematics. The book club meetings culminated with a visit from the book's author Francis Su. After he briefly discussed some of the main themes in his book, he answered questions from the participants, providing an inspiring and enjoyable conclusion to the semester. This semester, Drs. Betty Long and Quinn Morris of the Department of Mathematical Sciences organized a working group that included four members of last semester's book club -- Tonya Scott, Charlcy Carpenter, Gretel Stern, and Dr. Debbie Crocker. Tonya is a Secondary Instructional Coach for Burke County Public Schools; Charlcy is an eighth-grade math teacher at Burns Middle School; Gretel is a math teacher at Southland Public Schools; and Dr. Crocker is a Professor of Mathematical Sciences at ASU.

The group agreed that a book club can be a powerful activity for developing shared understandings, growing leadership in professional development and discussions, and prompting dialogue on timely topics. The team is currently making decisions about which practitioner products to create. Their goal is to share these products with others who wish to start a book club in their school or district or other group by presenting at conferences in the state and region.

The MSEC will accept proposals for future book clubs later in the spring semester. Faculty or other friends of the Center may propose a book that would foster rich dialogue around a timely issue in STEM education. Email Tracie McLemore Salinas at [salinasm@appstate.edu](mailto:salinasm@appstate.edu) if you would like to propose a future reading.

*Members of the Book Club project team on a Zoom call. Clockwise from top left, Charlcy Carpenter, Deborah Crocker, Quinn Morris, Gretel Stern, Tonya Buff Scott, and Betty Long.*



## HOW CAN YOU SUPPORT THE MSEC?

The MSEC relies on its partners to share information, volunteer as judges for events, and provide expertise when helpful. If you'd like to do more to support the MSEC, consider serving on our upcoming strategic planning committees or volunteering for a presentation, event, or outreach.

Share information about MSEC and partner events with your networks, and connect with the MSEC through social media. Forward this newsletter to others who may want to know more about STEM in our region. The MSEC relies on YOU!

## COVID-19 IMPACTS ON TEACHERS, FACULTY, & PARTNERS: *A Multi-Media Exploration of Teaching & Learning During the Pandemic*

The impacts of COVID-19 on teaching and learning have been felt for over a year now. On-line teaching, masks in schools, and modified schedules have all become part of the schooling landscape as educators have responded to the pandemic. Following we share a variety of stories from educators and students in our region and beyond.

### P-12 STUDENTS SHARE THOUGHTS ON SCHOOL

P-12 students began online classes last year and in many places are just beginning to return to face to face days for more than a day or two per week. How have students responded to online teaching and learning? Meet Grace and Owen in the videos below and hear about their experiences as middle school students.



[Click here to hear Owen's story.](#)



[Click here to hear Grace's story.](#)

### COLLEGE OF ARTS & SCIENCES ON TEACHING

The College of Arts and Sciences recently released a set of videos on how the college and campus have responded to the pandemic.

Visit the links below to hear the voices of students, faculty, and other community members and learn more about their experiences during this period of transition, change, and adaptation.



[Click the link here](#) or image to the left to view the video on the Appalachian community during COVID.



[Click the link here](#) or image to read more about the College of Arts and Sciences.

## INTERNATIONAL PARTNERS TELL THEIR STORIES



Cameroon Fulbright TEA Alumni Association

March 15 at 5:21 AM · 🌐

Covid-19 Brigade for Safe Schools in Cameroon

We were asked by Sabongari High School Principal Ma'oua Lamba Samuel to raise awareness among the students of his school at the rally on Monday, March 15, 2021. So here is the Commander of the Anti-COVID 19 Brigade. Vina, Owono Simon Pierre, in action

So we raised awareness of 1850 undergraduates, 8 General Supervisors, 6 Censors, the principal, 10 teachers, 5 support staff

#StopCOVID19Now StopCovid



The MSEC has worked with numerous international teachers over the years through the [TEA Fellows program](#), which brings teachers to Appalachian State from all over the world for a six-week experience engaging with faculty and public school partners. In many places former TEA Fellows are bringing leadership to their schools and communities in COVID response, not just in teaching and learning but also in health and hygiene. In the images to the left, the Cameroon TEA Fellows Alumni Associate share posts related to their work as a COVID Brigade. In this brigade, TEA Fellows and volunteers serve as officers, traveling the country to share information related to staying safe and healthy in the current context. Cameroon TEA Fellows tackle issues of violence and gender equity as well. We will feature the work of various international partners in future issues and the MSEC website.



[Click here](#) to learn more about the Cameroon TEA Fellows as they share their professional development activities from 2020.

## FOCUS on an Advisory Board member: Samuella Sigmann

Samuella B. Sigmann has more than 30 years of experience in academia and has been active in chemical safety education for 16 years. She holds a BS in Chemistry/Biology, a MA in Chemistry, and a MS in Occupational Health & Safety. She is currently employed at Appalachian State University as the Stockroom Director, a Senior Lecturer, and the departmental Chemical Hygiene Officer. She has extensive experience teaching chemical safety topics including risk management, chemical use storage, demonstration safety, the



Globally Harmonized System of Labelling and Classification, and reading SDSs. She has worked on numerous projects for the American Chemical Society to produce educational safety publications for graduate students, undergraduate chemistry students, and preservice and K-12 teachers. She has consulted nationally for plaintiffs in legal cases involving high school incidents where students were injured during experiments and demonstrations.

Sigmann has been an Advisory Board member for the MSEC for years and will be collaborating with the Center to provide support for classroom safety in coming months.

## NCCTM LEADERSHIP FROM WNC



### APPALACHIAN FACULTY & GRADUATES TAKE ROLES IN STATE ORGANIZATION

Two members of the faculty in the Appalachian Department of Mathematical Sciences were recently elected to serve on the Board of Directors for the North Carolina Council of Teachers of Mathematics. Dr. Katie Mawhinney was elected as the State Secretary, and Dr. Erica Slate Young was elected as the Western Region Vice President for Colleges and Universities. Furthermore, three ASU graduates were also elected to serve on the Board. Charlczy Carpenter (8th grade math teacher at Burns Middle School) will be the new Western Region Vice President for Middle Grades; Emily Bryant Hare (Grades 6-12 Mathematics Instructional Specialist for Randolph County Schools) was elected as the State Vice President for Secondary; and Sha Mosley (4th grade teacher at Southwest Elementary School) will serve as the Central Region Vice President for Elementary. Stefanie Buckner Hill, another ASU alumnus, will become the 26th NCCTM State President in March. Five of the past NCCTM presidents have been faculty members in the Department of Mathematical Sciences, and one is a graduate of the Department. These recently elected Board members continue a long-standing tradition of the Department of Mathematical Sciences in NCCTM leadership. -- Betty Long



For more information on this story, [visit this link](#) to visit the College of Arts and Sciences webpage.

## SAVE THE DATE

Many of the following events will be impacted in delivery method or dates by COVID-19. Click an event to see online information and watch for updates.

**April 27-30.** [Public School Forum SYNERGY Conference 2021](#)

**July 14-15.** [IDEA CON virtual conference \(details forthcoming\)](#)

**July 19-23.** [NC Career and Technical Education Summer Conference](#)

**November 4-5** [North Carolina Science Teacher Association State PD Institute](#)



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## PD OPPORTUNITIES

*STEM Professional Development Opportunities*

### MELT COURSES 2021

The Mathematics Education Leadership Training program will offer a combination of face to face and online experiences in its summer 2021 course roster. Courses feature applying Desmos to teaching mathematics, teaching Career and College Ready Graduate mathematics, mathematics teaching in the context of ELL/ESL, and a variety of sessions focusing on specific content. More information is available on the MELT website, including a special group discount.



For more information, visit the [MELT website](#).

### CHEMICAL SAFETY

The MSEC is pleased to offer a workshop on Improving Chemical Safety presented by Samuella Sigmann, Senior Lecturer and certified Chemical Hygiene Officer in the A.R. Smith Department of Chemistry and Fermentation Sciences at Appalachian State University and 2019 Howard Fawcett Chemical Health and Safety Award Chemical Society Division of Chemical Health and Safety. Sigmann has a national if not international reputation for expertise in chemical safety and a longstanding commitment to the safety and engagement of educational spaces.

This session, presented online on April 17, provides participants with content related to safely managing chemicals and using them in teaching and outreach. This workshop provides renewal credits, and the first 25 participants will receive a free chemical safety classroom kit.



For details & registration, [visit this link](#).



Were you forwarded this newsletter but would like to stay in touch? Email Leah at [mcmanusld@appstate.edu](mailto:mcmanusld@appstate.edu) to receive our newsletter.